

EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L61	7	(sampl\$3 and fraction\$ and luminance and pixel and color). CLM.	US-PGPUB	OR	OFF	2006/04/20 13:47

EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L59	1	345/690.ccls. and (resampl\$3 and cover\$3 and pixel and (addition or sum) and (multipl\$7))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2006/04/20 13:45
L58	16	345/690.ccls. and ((fraction\$3 near7 pixel) same (luminance or brightness or intensity))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/04/20 13:45
L56	6	345/690.ccls. and ((sampl\$3 near5 area) and ((luminance or intensity or brightness) near5 pixel) and (RGB or CMYK or YUV))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/04/20 13:33
L54	2	345/690.ccls. and ((cover\$3 near3 percent\$4) same (pixel and area))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/04/20 13:33
L53	93	345/600-605.ccls. and (luminance near7 (add\$5 or summ\$4))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/04/20 13:33
L49	19	382/260-264.ccls. and ((sampl\$3 near5 area) and ((luminance or intensity or brightness) near5 pixel) and (RGB or CMYK or YUV))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/04/20 13:32
L48	27	382/260-264.ccls. and ((sampl\$3 near3 area) and (pixel near5 color))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/04/20 13:32
L47	30	(L41 or L42 or L43) and ((cover\$3 near7 pixel) same (luminance or brightness or intensity))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/04/20 13:31
L46	52	L34 and ((pixel near7 (cover\$3 or overlap\$4)) same (luminance or intensity or brightness))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/04/20 13:31

EAST Search History

L45	57	(L41 or L42 or L43) and ((percent\$3 near7 pixel) same (luminance or brightness or intensity))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/04/20 13:30
L44	19	(L41 or L42 or L43) and ((fraction\$3 near7 pixel) same (luminance or brightness or intensity))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/04/20 13:29
L43	1035	382/274.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/04/20 13:29
L42	864	382/260.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/04/20 13:29
L41	1221	382/167.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/04/20 13:29
L40	3	(L37 or L36 or L38) and ((pixel near7 conver\$5) and (luminance or intensity) and (fraction same area same (cover\$4 or overlap\$3)))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/04/20 13:28
L39	9	(L37 or L36 or L38) and ((cover\$3 near3 percent\$4) same (pixel and area))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/04/20 13:27
L38	172	345/694.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/04/20 13:24
L37	46	345/617.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/04/20 13:24
L36	158	345/613.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/04/20 13:24

EAST Search History

L35	168	L34 and (pixel near7 (cover\$3 or overlap\$4))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/04/20 13:22
L34	439	345/611.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/04/20 13:21
L33	172	345/694.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/04/20 13:21
L32	46	345/617.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/04/20 13:14
L31	158	345/613.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/04/20 13:14
L30	97	(resampl\$3 near7 (area or box or rectangle or neighborhood)) and (luminance or intensity)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2006/04/20 13:12
L29	19	(resampl\$3 near7 (area or box or rectangle or neighborhood)) same (luminance or intensity)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2006/04/20 13:12
L28	4	345/604.ccls. and (resampl\$3 and cover\$3 and pixel and (addition or sum) and (multipl\$7))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2006/04/20 13:12
L27	0	345/643.ccls. and ((coverage near3 (coefficient)) same (pixel and area))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/04/20 13:11
L26	1	345/604.ccls. and (intensity or luminance) and sampl\$3 and (numerator or denominator)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2006/04/20 12:52

EAST Search History

L25	1	345/604.ccls. and (intensity or luminance) and sampl\$3 and (numerator and denominator)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2006/04/20 12:52
L24	17	(345/426.ccls. or 345/428.ccls. or 345/581.ccls.) and (fraction and (sampl\$3 near5 (area or box or rectangle or neighborhood)) and (three near5 color) and pixel)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2006/04/20 12:52
L23	0	345/604.ccls. and ((cover\$3 near3 percent\$4) same (pixel and area))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/04/20 12:36
L22	0	345/603.ccls. and ((cover\$3 near3 percent\$4) same (pixel and area))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/04/20 12:36
L21	0	345/604.ccls. and ((cover\$3 near3 (coefficient)) same (pixel and area))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/04/20 12:36
L20	0	345/603.ccls. and ((cover\$3 near3 (coefficient)) same (pixel and area))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/04/20 12:35
L19	15	345/604.ccls. and (luminance same sampl\$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/04/20 12:20
L17	23	345/603.ccls. and (luminance same sampl\$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/04/20 12:20
L15	1	(345/603.ccls.) and (fraction same sampl\$3 same pixel)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2006/04/20 12:19
L13	257	(345/604.ccls.)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2006/04/20 12:19

EAST Search History

L12	1	(345/604.ccls.) and (fraction same sampl\$3 same pixel)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2006/04/20 12:19
L11	21	(345/426.ccls. or 345/428.ccls. or 345/581.ccls.) and (fraction same sampl\$3 same pixel)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2006/04/20 12:18
L8	2	brown-elliott-candice-hellen.in.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2006/04/20 12:18
L10	20	higgins-michael-francis.in.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2006/04/20 12:17
L6	26	higgins-michael.in.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2006/04/20 12:17
L5	0	brown-elliott-candice.in.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2006/04/20 12:16
L4	15	L2 and (overlap\$4)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/04/20 12:14
L3	19	L2 and (fraction or numerator or denominator or divis\$3 or divid\$3)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/04/20 12:13
L2	54	("20020186229" "20030085906" "2 0030090581" "20030117423" "2003 0128225" "20040036704" "2004005 1724" "20040150651" "2004017438 9" "20050007327" "20050151752" " 20050190967" "20050219274" "463 2514" "5311205" "5754163" "58560 50" "5991438" "6005582" "6072445 " "6385466" "6469766" "6552706" "6583787" "6593981" "6680761" "6 842207").PN.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/04/20 12:11

RESULT LIST

0 results found in the Worldwide database for:

sample AND fraction AND multiply AND area in the title or abstract

(Results are sorted by date of upload in database)

Data supplied from the *esp@cenet* database - Worldwide

RESULT LIST

0 results found in the Worldwide database for:

sample AND fraction AND multiply AND overlap in the title or abstract

(Results are sorted by date of upload in database)

Data supplied from the *esp@cenet* database - Worldwide

RESULT LIST

0 results found in the Worldwide database for:

sample AND area AND multiply AND overlap in the title or abstract

(Results are sorted by date of upload in database)

Data supplied from the *esp@cenet* database - Worldwide

RESULT LIST

2 results found in the Worldwide database for:

resample AND fraction in the title or abstract

(Results are sorted by date of upload in database)

1 Conversion of a sub-pixel format data to another sub-pixel data format

Inventor: BROWN ELLIOTT CANDICE HELLEN (US); Applicant: CLAIRVOYANTE LAB INC (US)

HIGGINS MICHAEL FRANCIS (US)

EC:

IPC: **G09G3/00; G09G3/00**; (IPC1-7): G09G3/00

Publication info: **TW594627B** - 2004-06-21

2 CONVERSION OF A SUB-PIXEL FORMAT DATA TO ANOTHER

Inventor: BROWN ELLIOT CANDICE HELLEN; HIGGINS Applicant: CLAIRVOYANTE LAB INC (US)

MICHAEL FRANCIS

EC: G09G3/20; G09G3/20M; (+1)

IPC: **G09G3/20; G09G5/02; G09G3/20** (+2)

Publication info: **WO02091349** - 2002-11-14

Data supplied from the **esp@cenet** database - Worldwide

Searching PAJ

[MENU](#)[NEWS](#)[HELP](#)

Search Results : 0

Clear

Text Search

If you want to conduct a Number Search, please click on the button to the right.

Number Search

Applicant, Title of invention, Abstract -- e.g. computer semiconductor

If you use the AND/OR operation, please leave a SPACE between keywords.

One letter word or Stopwords are not searchable.

sample area multiply fraction

AND

AND

AND

AND

AND

AND

Date of publication of application -- e.g. 19980401 - 19980405

AND

IPC -- e.g. D01B7/04 A01C11/02

If you use the OR operation, please leave a SPACE between keywords.



Search

Stored data

Copyright (C); 1998,2003 Japan Patent Office

Searching PAJ

[MENU](#)[NEWS](#)[HELP](#)

Search Results : 4

[Index Indication](#)[Clear](#)**Text Search**

If you want to conduct a Number Search, please click on the button to the right.

[Number Search](#)

Applicant, Title of invention, Abstract --- e.g. computer semiconductor

If you use the AND/OR operation, please leave a SPACE between keywords.

One letter word or Stopwords are not searchable.

[AND](#)

AND

[AND](#)

AND

[AND](#)

AND

Date of publication of application --- e.g. 19980401 - 19980405

 -

AND

IPC --- e.g. D01B7/04 A01C11/02

If you use the OR operation, please leave a SPACE between keywords.

[Search](#)[Stored data](#)

Copyright (C); 1998,2003 Japan Patent Office

No. Publication No.

Title

1. 2003 - 139743 INSTRUMENT AND METHOD FOR LASER MEASUREMENT
2. 06 - 094696(1994) METHOD FOR ANALYZING CHROMATOGRAM AND CHROMATOGRAPHIC
DEVICE
3. 63 - 193787(1988) COMPOSITE VIDEO SIGNAL SYNTHESIZING DEVICE
4. 61 - 126750(1986) ELECTRON MICROSCOPE

Copyright (C); 1998,2003 Japan Patent Office

Searching PAJ

[MENU](#)[NEWS](#)[HELP](#)

Search Results : 0

Clear

Text Search

If you want to conduct a Number Search, please click on the button to the right.

Number Search

Applicant, Title of invention, Abstract — e.g. computer semiconductor

If you use the AND/OR operation, please leave a SPACE between keywords.

One letter word or Stopwords are not searchable.

sample area multiply add fraction

AND

AND

AND

AND

AND

AND

Date of publication of application — e.g. 19980401 - 19980405

AND

IPC — e.g. D01B7/04 A01C11/02

If you use the OR operation, please leave a SPACE between keywords.



Search

Stored data

Copyright (C); 1998,2003 Japan Patent Office

Searching PAJ

[MENU](#)[NEWS](#)[HELP](#)

Search Results : 0

[Clear](#)[Text Search](#)

If you want to conduct a Number Search, please click on the button to the right.

[Number Search](#)

Applicant, Title of invention, Abstract -- e.g. computer semiconductor

If you use the AND/OR operation, please leave a SPACE between keywords.

One letter word or Stopwords are not searchable.

[AND](#)

AND

[AND](#)

AND

[AND](#)

AND

Date of publication of application -- e.g. 19980401 - 19980405

 -

AND

IPC -- e.g. D01B7/04 A01C11/02

If you use the OR operation, please leave a SPACE between keywords.

[Search](#)[Stored data](#)

Copyright (C); 1998,2003 Japan Patent Office

Searching PAJ

[MENU](#)[NEWS](#)[HELP](#)

Search Results : 0

Clear

Text Search

If you want to conduct a Number Search, please click on the button to the right.

[Number Search](#)

Applicant, Title of invention, Abstract --- e.g. computer semiconductor

If you use the AND/OR operation, please leave a SPACE between keywords.

One letter word or Stopwords are not searchable.

resample area multiply add

AND

AND

AND

AND

AND

AND

Date of publication of application --- e.g. 19980401 - 19980405

AND

IPC --- e.g. D01B7/04 A01C11/02

If you use the OR operation, please leave a SPACE between keywords.



Search

Stored data

Copyright (C); 1998,2003 Japan Patent Office

Searching PAJ

[MENU](#)[NEWS](#)[HELP](#)

Search Results : 0

Clear

Text Search

If you want to conduct a Number Search, please click on the button to the right.

Number Search

Applicant, Title of invention, Abstract --- e.g. computer semiconductor

If you use the AND/OR operation, please leave a SPACE between keywords.

One letter word or Stopwords are not searchable.

resample area multiply fraction

AND

AND

AND

AND

AND

AND

Date of publication of application --- e.g. 19980401 - 19980405

-

AND

IPC --- e.g. D01B7/04 A01C11/02

Searching PAJ

[MENU](#)[NEWS](#)[HELP](#)

Search Results : 0

[Clear](#)[Text Search](#)

If you want to conduct a Number Search, please click on the button to the right.

[Number Search](#)

Applicant, Title of invention, Abstract --- e.g. computer semiconductor

If you use the AND/OR operation, please leave a SPACE between keywords.

One letter word or Stopwords are not searchable.

resample area multiply overlap

AND ▼

AND

AND ▼

AND

AND ▼

AND

Date of publication of application --- e.g. 19980401 - 19980405

AND

IPC --- e.g. D01B7/04 A01C11/02

If you use the OR operation, please leave a SPACE between keywords.

[Search](#)[Stored data](#)

Copyright (C); 1998,2003 Japan Patent Office


Terms used sample area fraction multiply add color luminance

Found 18 of 171,143

Sort results by


[Save results to a Binder](#)

Try an [Advanced Search](#)

Try this search in [The ACM Guide](#)

Display results


[Search Tips](#)
☐ Open results in a new window

Results 1 - 18 of 18

Relevance scale ☐ ☐ ☐ ☐ ☐

1 [GPGPU: general purpose computation on graphics hardware](#)



David Luebke, Mark Harris, Jens Krüger, Tim Purcell, Naga Govindaraju, Ian Buck, Cliff Woolley, Aaron Lefohn

August 2004 **Proceedings of the conference on SIGGRAPH 2004 course notes GRAPH '04**

Publisher: ACM Press

Full text available:  [pdf\(63.03 MB\)](#) Additional Information: [full citation](#), [abstract](#)

The graphics processor (GPU) on today's commodity video cards has evolved into an extremely powerful and flexible processor. The latest graphics architectures provide tremendous memory bandwidth and computational horsepower, with fully programmable vertex and pixel processing units that support vector operations up to full IEEE floating point precision. High level languages have emerged for graphics hardware, making this computational power accessible. Architecturally, GPUs are highly parallel s ...

2 [High dynamic range imaging](#)



Paul Debevec, Erik Reinhard, Greg Ward, Sumanta Pattanaik

August 2004 **Proceedings of the conference on SIGGRAPH 2004 course notes GRAPH '04**

Publisher: ACM Press

Full text available:  [pdf\(20.22 MB\)](#) Additional Information: [full citation](#), [abstract](#)

Current display devices can display only a limited range of contrast and colors, which is one of the main reasons that most image acquisition, processing, and display techniques use no more than eight bits per color channel. This course outlines recent advances in high-dynamic-range imaging, from capture to display, that remove this restriction, thereby enabling images to represent the color gamut and dynamic range of the original scene rather than the limited subspace imposed by current monitor ...

3 [The elements of nature: interactive and realistic techniques](#)



Oliver Deussen, David S. Ebert, Ron Fedkiw, F. Kenton Musgrave, Przemyslaw Prusinkiewicz, Doug Roble, Jos Stam, Jerry Tessendorf

August 2004 **Proceedings of the conference on SIGGRAPH 2004 course notes GRAPH '04**

Publisher: ACM Press

Full text available:  [pdf\(17.65 MB\)](#) Additional Information: [full citation](#), [abstract](#)

This updated course on simulating natural phenomena will cover the latest research and production techniques for simulating most of the elements of nature. The presenters will provide movie production, interactive simulation, and research perspectives on the difficult task of photorealistic modeling, rendering, and animation of natural phenomena. The course offers a nice balance of the latest interactive graphics hardware-based simulation techniques and the latest physics-based simulation techni ...

4 [Real-time shading](#)

Marc Olano, Kurt Akeley, John C. Hart, Wolfgang Heidrich, Michael McCool, Jason L. Mitchell,



Randi Rost

August 2004 **Proceedings of the conference on SIGGRAPH 2004 course notes GRAPH '04**

Publisher: ACM Press

Full text available: pdf(7.39 MB) Additional Information: [full citation](#), [abstract](#)

Real-time procedural shading was once seen as a distant dream. When the first version of this course was offered four years ago, real-time shading was possible, but only with one-of-a-kind hardware or by combining the effects of tens to hundreds of rendering passes. Today, almost every new computer comes with graphics hardware capable of interactively executing shaders of thousands to tens of thousands of instructions. This course has been redesigned to address today's real-time shading capabili ...

5 Color gamut mapping and the printing of digital color images



Maureen C. Stone, William B. Cowan, John C. Beatty

October 1988 **ACM Transactions on Graphics (TOG)**, Volume 7 Issue 4

Publisher: ACM Press

Full text available: pdf(6.06 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

Principles and techniques useful for calibrated color reproduction are defined. These results are derived from a project to take digital images designed on a variety of different color monitors and accurately reproduce them in a journal using digital offset printing. Most of the images printed were reproduced without access to the image as viewed in its original form; the color specification was derived entirely from calorimetric specification. The techniques described here are not specific ...

6 Global illumination using local linear density estimation



Bruce Walter, Philip M. Hubbard, Peter Shirley, Donald P. Greenberg

July 1997 **ACM Transactions on Graphics (TOG)**, Volume 16 Issue 3

Publisher: ACM Press

Full text available: pdf(22.31 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

This article presents the density estimation framework for generating view-independent global illumination solutions. It works by probabilistically simulating the light flow in an environment with light particles that trace random walks origination at luminaires and then using statistical density estimation techniques to reconstruct the lighting on each surface. By splitting the computation into separate transport and reconstruction stages, we gain many advantages including reduced memory u ...

Keywords: decimation, density estimation, particle tracing, realistic image synthesis, regression

7 Smart hardware-accelerated volume rendering

Stefan Roettger, Stefan Guthe, Daniel Weiskopf, Thomas Ertl, Wolfgang Strasser

May 2003 **Proceedings of the symposium on Data visualisation 2003 VISSYM '03**

Publisher: Eurographics Association

Full text available: pdf(3.19 MB) Additional Information: [full citation](#), [abstract](#), [citations](#), [index terms](#)

For volume rendering of regular grids the display of view-plane aligned slices has proven to yield both good quality and performance. In this paper we demonstrate how to merge the most important extensions of the original 3D slicing approach, namely the pre-integration technique, volumetric clipping, and advanced lighting. Our approach allows the suppression of clipping artifacts and achieves high quality while offering the flexibility to explore volume data sets interactively with arbitrary cli ...

8 State of the art in Monte Carlo global illumination



Philip Dutré, Henrik Wann Jensen, Jim Arvo, Kavita Bala, Philippe Bekaert, Steve Marschner, Matt Pharr

August 2004 **Proceedings of the conference on SIGGRAPH 2004 course notes GRAPH '04**

Publisher: ACM Press

Realistic image synthesis is increasingly important in areas such as entertainment (movies, special effects and games), design, architecture and more. A common trend in all these areas is the quest for more realistic images of increasingly complex models. Monte Carlo global illumination algorithms are the only methods that can handle this complexity. Recent advances in algorithms and compute power has made Monte Carlo algorithms very practical and a natural choice for most problems. The purpose o ...

9 Fragment-based image completion



Iddo Drori, Daniel Cohen-Or, Hezy Yeshurun

July 2003 **ACM Transactions on Graphics (TOG)**, Volume 22 Issue 3

Publisher: ACM Press

Full text available:  [pdf\(8.99 MB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We present a new method for completing missing parts caused by the removal of foreground or background elements from an image. Our goal is to synthesize a complete, visually plausible and coherent image. The visible parts of the image serve as a training set to infer the unknown parts. Our method iteratively approximates the unknown regions and composites adaptive image fragments into the image. Values of an inverse matte are used to compute a confidence map and a level set that direct an increm ...

Keywords: compositing, digital matting, example-based synthesis, image completion


10 Physically-based glare effects for digital images



Greg Spencer, Peter Shirley, Kurt Zimmerman, Donald P. Greenberg

September 1995 **Proceedings of the 22nd annual conference on Computer graphics and interactive techniques**

Publisher: ACM Press

Full text available:  [pdf\(2.18 MB\)](#)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

Keywords: bloom, flare, glare, lenticular halo, vision


11 The RADIANCE lighting simulation and rendering system



Gregory J. Ward

July 1994 **Proceedings of the 21st annual conference on Computer graphics and interactive techniques**

Publisher: ACM Press

Full text available:  [pdf\(2.36 MB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

This paper describes a physically-based rendering system tailored to the demands of lighting design and architecture. The simulation uses a light-backwards ray-tracing method with extensions to efficiently solve the rendering equation under most conditions. This includes specular, diffuse and directional-diffuse reflection and transmission in any combination to any level in any environment, including complicated, curved geometries. The simulation blends deterministic and stochastic ray-trac ...

Keywords: Monte Carlo, lighting simulation, physically-based rendering, radiosity, ray-tracing


12 A frequency based ray tracer




Mark R. Bolin, Gary W. Meyer

September 1995 **Proceedings of the 22nd annual conference on Computer graphics and interactive techniques**

Publisher: ACM Press

Full text available:  [pdf\(379.38 KB\)](#)

 [ps\(6.74 MB\)](#)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

Keywords: DCT, JPEG, Monte Carlo, adaptive sampling, color, ray tracing, reconstruction, visual perception

13 Metropolis light transport



Eric Veach, Leonidas J. Guibas

August 1997 **Proceedings of the 24th annual conference on Computer graphics and interactive techniques**

Publisher: ACM Press/Addison-Wesley Publishing Co.

Full text available: [pdf\(3.45 MB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

Keywords: Markov Chain Monte Carlo methods, Metropolis-Hastings algorithm, Monte Carlo integration, global illumination, lighting simulation, physically-based rendering, radiative heat transfer, variance reduction

14 Image-driven simplification



Peter Lindstrom, Greg Turk

July 2000 **ACM Transactions on Graphics (TOG)**, Volume 19 Issue 3

Publisher: ACM Press

Full text available: [pdf\(1.98 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We introduce the notion of image-driven simplification, a framework that uses images to decide which portions of a model to simplify. This is a departure from approaches that make polygonal simplification decisions based on geometry. As with many methods, we use the edge collapse operator to make incremental changes to a model. Unique to our approach, however, is the use at comparisons between images of the original model against those of a simplified model to determine the ...

Keywords: image metrics, level-of-detail, polygonal simplification, visual perception

15 Generalized stochastic subdivision



J. P. Lewis

July 1987 **ACM Transactions on Graphics (TOG)**, Volume 6 Issue 3

Publisher: ACM Press

Full text available: [pdf\(2.67 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

Stochastic techniques have assumed a prominent role in computer graphics because of their success in modeling a variety of complex and natural phenomena. This paper describes the basis for techniques such as stochastic subdivision in the theory of random processes and estimation theory. The popular stochastic subdivision construction is then generalized to provide control of the autocorrelation and spectral properties of the synthesized random functions. The generalized construction is suit ...

16 A hybrid physical/device-space approach for spatio-temporally coherent interactive texture advection on curved surfaces

Daniel Weiskopf, Thomas Ertl

May 2004 **Proceedings of the 2004 conference on Graphics interface GI '04**

Publisher: Canadian Human-Computer Communications Society

Full text available: [pdf\(297.81 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#)

We propose a novel approach for a dense texture-based visualization of vector fields on curved surfaces. Our texture advection mechanism relies on a Lagrangian particle tracing that is simultaneously computed in the physical space of the object and in the device space of the image plane. This approach retains the benefits of previous image-space techniques, such as output sensitivity, independence from surface parameterization or mesh connectivity, and support for dynamic surfaces. At the same t ...

Keywords: GPU programming, flow visualization, surface visualization, textures, vector field visualization

17 Rendering: Multiple light field rendering



Jarno van der Linden

February 2003 **Proceedings of the 1st international conference on Computer graphics and interactive techniques in Australasia and South East Asia**

Publisher: ACM Press

Full text available: [pdf\(10.62 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

A light field is a 4D function describing the radiance across a boundary between the volume containing a scene, and the disjoint volume in which the eyepoint may be placed. Light field rendering is the process of rendering novel views of a scene captured by the light field function. It is a purely image-based rendering technique which uses no geometric knowledge of the scene. Although the lack of needed geometric information make light fields an attractive way of capturing real-world scenes, it ...

Keywords: composition, intersection, light field rendering, terrain visualization

18 Watermarking: Resolution and quality scalable spread spectrum image watermarking



Angela Piper, Reihaneh Safavi-Naini, Alfred Mertins

August 2005 **Proceedings of the 7th workshop on Multimedia and security MM&Sec '05**

Publisher: ACM Press

Full text available: [pdf\(238.35 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

If digital watermarking is to adequately protect content in systems which provide both resolution and quality scalability, then the watermarking algorithms used must provide both resolution and quality scalability. Although there exists a tradeoff between resolution and quality scalability, we demonstrate that it is possible to achieve both types by taking advantage of human visual system characteristics to increase quality scalability without compromising resolution scalability. To this end, we ...

Keywords: digital watermarking, scalable, texture analysis

Results 1 - 18 of 18

The ACM Portal is published by the Association for Computing Machinery. Copyright © 2006 ACM, Inc.
[Terms of Usage](#) [Privacy Policy](#) [Code of Ethics](#) [Contact Us](#)

Useful downloads: [Adobe Acrobat](#) [QuickTime](#) [Windows Media Player](#) [Real Player](#)


Terms used [sample](#) [area](#) [fraction](#) [multiply](#) [add](#) [color](#) [overlap](#)

Found 72 of 175,083

Sort results by


[Save results to a Binder](#)

Try an [Advanced Search](#)

Try this search in [The ACM Guide](#)

Display results


[Search Tips](#)
☐ Open results in a new window

Results 1 - 20 of 72

Result page: [1](#) [2](#) [3](#) [4](#) [next](#)

Relevance scale ☐ ☐ ☐ ☐ ☐


1 [The elements of nature: interactive and realistic techniques](#)



Oliver Deussen, David S. Ebert, Ron Fedkiw, F. Kenton Musgrave, Przemyslaw Prusinkiewicz, Doug Roble, Jos Stam, Jerry Tessendorf

August 2004 **Proceedings of the conference on SIGGRAPH 2004 course notes GRAPH '04**

Publisher: ACM Press

Full text available:  [pdf\(17.65 MB\)](#) Additional Information: [full citation](#), [abstract](#)

This updated course on simulating natural phenomena will cover the latest research and production techniques for simulating most of the elements of nature. The presenters will provide movie production, interactive simulation, and research perspectives on the difficult task of photorealistic modeling, rendering, and animation of natural phenomena. The course offers a nice balance of the latest interactive graphics hardware-based simulation techniques and the latest physics-based simulation techni ...

2 [GPGPU: general purpose computation on graphics hardware](#)



David Luebke, Mark Harris, Jens Krüger, Tim Purcell, Naga Govindaraju, Ian Buck, Cliff Woolley, Aaron Lefohn

August 2004 **Proceedings of the conference on SIGGRAPH 2004 course notes GRAPH '04**

Publisher: ACM Press

Full text available:  [pdf\(63.03 MB\)](#) Additional Information: [full citation](#), [abstract](#)

The graphics processor (GPU) on today's commodity video cards has evolved into an extremely powerful and flexible processor. The latest graphics architectures provide tremendous memory bandwidth and computational horsepower, with fully programmable vertex and pixel processing units that support vector operations up to full IEEE floating point precision. High level languages have emerged for graphics hardware, making this computational power accessible. Architecturally, GPUs are highly parallel s ...

3 [Real-time shading](#)



Marc Olano, Kurt Akeley, John C. Hart, Wolfgang Heidrich, Michael McCool, Jason L. Mitchell, Randi Rost

August 2004 **Proceedings of the conference on SIGGRAPH 2004 course notes GRAPH '04**

Publisher: ACM Press


Full text available:  [pdf\(7.39 MB\)](#) Additional Information: [full citation](#), [abstract](#)

Real-time procedural shading was once seen as a distant dream. When the first version of this course was offered four years ago, real-time shading was possible, but only with one-of-a-kind hardware or by combining the effects of tens to hundreds of rendering passes. Today, almost every new computer comes with graphics hardware capable of interactively executing shaders of thousands to tens of thousands of instructions. This course has been redesigned to address today's real-time shading capabili ...

4 [Collision detection and proximity queries](#)


 Sunil Hadap, Dave Eberle, Pascal Volino, Ming C. Lin, Stephane Redon, Christer Ericson
August 2004 **Proceedings of the conference on SIGGRAPH 2004 course notes GRAPH '04**

Publisher: ACM Press

Full text available:  [pdf\(11.22 MB\)](#) Additional Information: [full citation](#), [abstract](#)

This course will primarily cover widely accepted and proved methodologies in collision detection. In addition more advanced or recent topics such as continuous collision detection, ADFs, and using graphics hardware will be introduced. When appropriate the methods discussed will be tied to familiar applications such as rigid body and cloth simulation, and will be compared. The course is a good overview for those developing applications in physically based modeling, VR, haptics, and robotics.

5 Status report of the graphic standards planning committee


 Computer Graphics staff

August 1979 **ACM SIGGRAPH Computer Graphics**, Volume 13 Issue 3

Publisher: ACM Press

Full text available:  [pdf\(15.01 MB\)](#) Additional Information: [full citation](#), [references](#), [citations](#)

6 High dynamic range imaging

 Paul Debevec, Erik Reinhard, Greg Ward, Sumanta Pattanaik


August 2004 **Proceedings of the conference on SIGGRAPH 2004 course notes GRAPH '04**

Publisher: ACM Press

Full text available:  [pdf\(20.22 MB\)](#) Additional Information: [full citation](#), [abstract](#)

Current display devices can display only a limited range of contrast and colors, which is one of the main reasons that most image acquisition, processing, and display techniques use no more than eight bits per color channel. This course outlines recent advances in high-dynamic-range imaging, from capture to display, that remove this restriction, thereby enabling images to represent the color gamut and dynamic range of the original scene rather than the limited subspace imposed by current monitor ...

7 Real-time volume graphics

 Klaus Engel, Markus Hadwiger, Joe M. Kniss, Aaron E. Lefohn, Christof Rezk Salama, Daniel Weiskopf


August 2004 **Proceedings of the conference on SIGGRAPH 2004 course notes GRAPH '04**

Publisher: ACM Press

Full text available:  [pdf\(7.63 MB\)](#) Additional Information: [full citation](#), [abstract](#)

The tremendous evolution of programmable graphics hardware has made high-quality real-time volume graphics a reality. In addition to the traditional application of rendering volume data in scientific visualization, the interest in applying these techniques for real-time rendering of atmospheric phenomena and participating media such as fire, smoke, and clouds is growing rapidly. This course covers both applications in scientific visualization, e.g., medical volume data, and real-time rendering, ...

8 Level set and PDE methods for computer graphics

 David Breen, Ron Fedkiw, Ken Museth, Stanley Osher, Guillermo Sapiro, Ross Whitaker

August 2004 **Proceedings of the conference on SIGGRAPH 2004 course notes GRAPH '04**

Publisher: ACM Press

Full text available:  [pdf\(17.07 MB\)](#) Additional Information: [full citation](#), [abstract](#)

Level set methods, an important class of partial differential equation (PDE) methods, define dynamic surfaces implicitly as the level set (iso-surface) of a sampled, evolving nD function. The course begins with preparatory material that introduces the concept of using partial differential equations to solve problems in computer graphics, geometric modeling and computer vision. This will include the structure and behavior of several different types of differential equations, e.g. the level set eq ...

9 Real-time shadowing techniques



Tomas Akenine-Moeller, Eric Chan, Wolfgang Heidrich, Jan Kautz, Mark Kilgard, Marc Stamminger

August 2004 **Proceedings of the conference on SIGGRAPH 2004 course notes GRAPH '04**

Publisher: ACM Press

Full text available: [pdf\(11.17 MB\)](#) Additional Information: [full citation](#), [abstract](#)

Shadows heighten realism and provide important visual cues about the spatial relationships between objects. But integration of robust shadow shadowing techniques in real-time rendering is not an easy task. In this course on how shadows are incorporated in real-time rendering, attendees learn basic shadowing techniques and more advanced techniques that exploit new features of graphics hardware. The course begins with shadowing techniques using shadow maps. After an introduction to shadow maps and ...

10 Lighting & sampling: Triple product wavelet integrals for all-frequency relighting



Ren Ng, Ravi Ramamoorthi, Pat Hanrahan

August 2004 **ACM Transactions on Graphics (TOG)**, Volume 23 Issue 3

Publisher: ACM Press

Full text available: [pdf\(365.55 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)
 [mov\(25:51 MIN\)](#)

This paper focuses on efficient rendering based on pre-computed light transport, with realistic materials and shadows under all-frequency direct lighting such as environment maps. The basic difficulty is representation and computation in the 6D space of light direction, view direction, and surface position. While image-based and synthetic methods for real-time rendering have been proposed, they do not scale to high sampling rates with variation of both lighting and viewpoint. Current approaches ...

Keywords: Haar Wavelets, Image-Based Rendering, Non-linear Approximation, Pre-computed Radiance Transfer, Relighting

11 Proceedings of the SIGNUM conference on the programming environment for development of numerical software



March 1979 **ACM SIGNUM Newsletter**, Volume 14 Issue 1

Publisher: ACM Press

Full text available: [pdf\(5.02 MB\)](#) Additional Information: [full citation](#)

12 Point-based computer graphics



Marc Alexa, Markus Gross, Mark Pauly, Hanspeter Pfister, Marc Stamminger, Matthias Zwicker

August 2004 **Proceedings of the conference on SIGGRAPH 2004 course notes GRAPH '04**

Publisher: ACM Press

Full text available: [pdf\(8.94 MB\)](#) Additional Information: [full citation](#), [abstract](#), [citations](#)

This course introduces points as a powerful and versatile graphics primitive. Speakers present their latest concepts for the acquisition, representation, modeling, processing, and rendering of point sampled geometry along with applications and research directions. We describe algorithms and discuss current problems and limitations, covering important aspects of point based graphics.

13 Fast detection of communication patterns in distributed executions

Thomas Kunz, Michiel F. H. Seuren

November 1997 **Proceedings of the 1997 conference of the Centre for Advanced Studies on Collaborative research**

Publisher: IBM Press

Full text available: [pdf\(4.21 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Understanding distributed applications is a tedious and difficult task. Visualizations based on process-time diagrams are often used to obtain a better understanding of the

execution of the application. The visualization tool we use is Poet, an event tracer developed at the University of Waterloo. However, these diagrams are often very complex and do not provide the user with the desired overview of the application. In our experience, such tools display repeated occurrences of non-trivial commun ...

14 Compositing digital images



Thomas Porter, Tom Duff

January 1984 **ACM SIGGRAPH Computer Graphics , Proceedings of the 11th annual conference on Computer graphics and interactive techniques SIGGRAPH '84**, Volume 18 Issue 3

Publisher: ACM Press

Full text available: [pdf\(749.74 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Most computer graphics pictures have been computed all at once, so that the rendering program takes care of all computations relating to the overlap of objects. There are several applications, however, where elements must be rendered separately, relying on compositing techniques for the anti-aliased accumulation of the full image. This paper presents the case for four-channel pictures, demonstrating that a matte component can be computed similarly to the color channels. The paper di ...

Keywords: Compositing, Graphics systems, Matte algebra, Matte channel, Visible surface algorithms

15 Prefiltered antialiased lines using half-plane distance functions



Robert McNamara, Joel McCormack, Norman P. Jouppi

August 2000 **Proceedings of the ACM SIGGRAPH/EUROGRAPHICS workshop on Graphics hardware**

Publisher: ACM Press

Full text available: [pdf\(2.53 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

We describe a method to compute high-quality antialiased lines by adding a modest amount of hardware to a fragment generator based upon half-plane edge functions. (A fragment contains the information needed to paint one pixel of a line or a polygon.) We surround an antialiased line with four edge functions to create a long, thin, rectangle. We scale the edge functions so that they compute signed distances from the four edges. At each fragment within the antialiased line, the four distances ...

Keywords: atialiasing, graphics accelerators, prefiltering

16 Crowd and group animation



Daniel Thalmann, Christophe Hery, Seth Lippman, Hiromi Ono, Stephen Regelous, Douglas Sutton

August 2004 **Proceedings of the conference on SIGGRAPH 2004 course notes GRAPH '04**

Publisher: ACM Press

Full text available: [pdf\(20.19 MB\)](#) Additional Information: [full citation](#), [abstract](#)

A continuous challenge for special effects in movies is the production of realistic virtual crowds, in terms of rendering and behavior. This course will present state-of-the-art techniques and methods. The course will explain in details the different approaches to create virtual crowds: particle systems with flocking techniques using attraction and repulsion forces, copy and pasting techniques, agent-based methods. The architecture of software tools will be presented including the MASSIVE softwa ...

17 Color gamut mapping and the printing of digital color images



Maureen C. Stone, William B. Cowan, John C. Beatty

October 1988 **ACM Transactions on Graphics (TOG)**, Volume 7 Issue 4

Publisher: ACM Press

Full text available: [pdf\(6.06 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

Principles and techniques useful for calibrated color reproduction are defined. These results are derived from a project to take digital images designed on a variety of different color monitors and accurately reproduce them in a journal using digital offset printing. Most of the images printed were reproduced without access to the image as viewed in its original form; the color specification was derived entirely from calorimetric specification. The techniques described here are not specific ...

18 On randomization in sequential and distributed algorithms



Rajiv Gupta, Scott A. Smolka, Shaji Bhaskar

March 1994 **ACM Computing Surveys (CSUR)**, Volume 26 Issue 1

Publisher: ACM Press

Full text available: [pdf\(8.01 MB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Probabilistic, or randomized, algorithms are fast becoming as commonplace as conventional deterministic algorithms. This survey presents five techniques that have been widely used in the design of randomized algorithms. These techniques are illustrated using 12 randomized algorithms—both sequential and distributed— that span a wide range of applications, including: primality testing (a classical problem in number theory), interactive probabilistic proofs ...

Keywords: Byzantine agreement, CSP, analysis of algorithms, computational complexity, dining philosophers problem, distributed algorithms, graph isomorphism, hashing, interactive probabilistic proof systems, leader election, message routing, nearest-neighbors problem, perfect hashing, primality testing, probabilistic techniques, randomized or probabilistic algorithms, randomized quicksort, sequential algorithms, transitive tournaments, universal hashing

19 Draft Proposed: American National Standard—Graphical Kernel System



Technical Committee X3H3 - Computer Graphics

February 1984 **ACM SIGGRAPH Computer Graphics**, Volume 18 Issue SI

Publisher: ACM Press

Full text available: [pdf\(16.07 MB\)](#)

Additional Information: [full citation](#)

20 Texture mapping 3D models of real-world scenes



Frederick M. Weinhaus, Venkat Devarajan

December 1997 **ACM Computing Surveys (CSUR)**, Volume 29 Issue 4

Publisher: ACM Press

Full text available: [pdf\(1.98 MB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#), [review](#)

Texture mapping has become a popular tool in the computer graphics industry in the last few years because it is an easy way to achieve a high degree of realism in computer-generated imagery with very little effort. Over the last decade, texture-mapping techniques have advanced to the point where it is possible to generate real-time perspective simulations of real-world areas by texture mapping every object surface with texture from photographic images of these real-world areas. The technique ...

Keywords: anti-aliasing, height field, homogeneous coordinates, image perspective transformation, image warping, multiresolution data, perspective projection, polygons, ray tracing, real-time scene generation, rectification, registration, texture mapping, visual simulators, voxels



Terms used

[sample](#) [area](#) [fraction](#) [multiply](#) [add](#) [color](#) [overlap](#) [pixel](#)

Found 52 of 171,143

Sort results by


[Save results to a Binder](#)

Try an [Advanced Search](#)

Display results


[Search Tips](#)

Try this search in [The ACM Guide](#)
☐ Open results in a new window

Results 1 - 20 of 52

Result page: [1](#) [2](#) [3](#) [next](#)

Relevance scale ☐ ☐ ☐ ☐ ☐

1 [The elements of nature: interactive and realistic techniques](#)



Oliver Deussen, David S. Ebert, Ron Fedkiw, F. Kenton Musgrave, Przemyslaw Prusinkiewicz, Doug Roble, Jos Stam, Jerry Tessendorf

August 2004 **Proceedings of the conference on SIGGRAPH 2004 course notes GRAPH '04**

Publisher: ACM Press

Full text available:  [pdf\(17.65 MB\)](#) Additional Information: [full citation](#), [abstract](#)

This updated course on simulating natural phenomena will cover the latest research and production techniques for simulating most of the elements of nature. The presenters will provide movie production, interactive simulation, and research perspectives on the difficult task of photorealistic modeling, rendering, and animation of natural phenomena. The course offers a nice balance of the latest interactive graphics hardware-based simulation techniques and the latest physics-based simulation techni ...

2 [GPGPU: general purpose computation on graphics hardware](#)



David Luebke, Mark Harris, Jens Krüger, Tim Purcell, Naga Govindaraju, Ian Buck, Cliff Woolley, Aaron Lefohn

August 2004 **Proceedings of the conference on SIGGRAPH 2004 course notes GRAPH '04**

Publisher: ACM Press

Full text available:  [pdf\(63.03 MB\)](#) Additional Information: [full citation](#), [abstract](#)

The graphics processor (GPU) on today's commodity video cards has evolved into an extremely powerful and flexible processor. The latest graphics architectures provide tremendous memory bandwidth and computational horsepower, with fully programmable vertex and pixel processing units that support vector operations up to full IEEE floating point precision. High level languages have emerged for graphics hardware, making this computational power accessible. Architecturally, GPUs are highly parallel s ...

3 [Real-time shading](#)



Marc Olano, Kurt Akeley, John C. Hart, Wolfgang Heidrich, Michael McCool, Jason L. Mitchell, Randi Rost

August 2004 **Proceedings of the conference on SIGGRAPH 2004 course notes GRAPH '04**

Publisher: ACM Press

Full text available:  [pdf\(7.39 MB\)](#) Additional Information: [full citation](#), [abstract](#)

Real-time procedural shading was once seen as a distant dream. When the first version of this course was offered four years ago, real-time shading was possible, but only with one-of-a-kind hardware or by combining the effects of tens to hundreds of rendering passes. Today, almost every new computer comes with graphics hardware capable of interactively executing shaders of thousands to tens of thousands of instructions. This course has been redesigned to address today's real-time shading capabili ...

4 Collision detection and proximity queries

 Sunil Hadap, Dave Eberle, Pascal Volino, Ming C. Lin, Stephane Redon, Christer Ericson
August 2004 **Proceedings of the conference on SIGGRAPH 2004 course notes GRAPH '04**

Publisher: ACM Press

Full text available:  [pdf\(11.22 MB\)](#) Additional Information: [full citation](#), [abstract](#)

This course will primarily cover widely accepted and proved methodologies in collision detection. In addition more advanced or recent topics such as continuous collision detection, ADFs, and using graphics hardware will be introduced. When appropriate the methods discussed will be tied to familiar applications such as rigid body and cloth simulation, and will be compared. The course is a good overview for those developing applications in physically based modeling, VR, haptics, and robotics.


5 Status report of the graphic standards planning committee

 Computer Graphics staff
August 1979 **ACM SIGGRAPH Computer Graphics**, Volume 13 Issue 3

Publisher: ACM Press

Full text available:  [pdf\(15.01 MB\)](#) Additional Information: [full citation](#), [references](#), [citations](#)

6 High dynamic range imaging


 Paul Debevec, Erik Reinhard, Greg Ward, Sumanta Pattanaik
August 2004 **Proceedings of the conference on SIGGRAPH 2004 course notes GRAPH '04**

Publisher: ACM Press

Full text available:  [pdf\(20.22 MB\)](#) Additional Information: [full citation](#), [abstract](#)

Current display devices can display only a limited range of contrast and colors, which is one of the main reasons that most image acquisition, processing, and display techniques use no more than eight bits per color channel. This course outlines recent advances in high-dynamic-range imaging, from capture to display, that remove this restriction, thereby enabling images to represent the color gamut and dynamic range of the original scene rather than the limited subspace imposed by current monitor ...

7 Real-time volume graphics


 Klaus Engel, Markus Hadwiger, Joe M. Kniss, Aaron E. Lefohn, Christof Rezk Salama, Daniel Weiskopf
August 2004 **Proceedings of the conference on SIGGRAPH 2004 course notes GRAPH '04**

Publisher: ACM Press

Full text available:  [pdf\(7.63 MB\)](#) Additional Information: [full citation](#), [abstract](#)

The tremendous evolution of programmable graphics hardware has made high-quality real-time volume graphics a reality. In addition to the traditional application of rendering volume data in scientific visualization, the interest in applying these techniques for real-time rendering of atmospheric phenomena and participating media such as fire, smoke, and clouds is growing rapidly. This course covers both applications in scientific visualization, e.g., medical volume data, and real-time rendering, ...

8 Level set and PDE methods for computer graphics

 David Breen, Ron Fedkiw, Ken Museth, Stanley Osher, Guillermo Sapiro, Ross Whitaker
August 2004 **Proceedings of the conference on SIGGRAPH 2004 course notes GRAPH '04**

Publisher: ACM Press

Full text available:  [pdf\(17.07 MB\)](#) Additional Information: [full citation](#), [abstract](#)

Level set methods, an important class of partial differential equation (PDE) methods, define dynamic surfaces implicitly as the level set (iso-surface) of a sampled, evolving nD function. The course begins with preparatory material that introduces the concept of using partial differential equations to solve problems in computer graphics, geometric modeling and computer vision. This will include the structure and behavior of several different types of differential equations, e.g. the level set eq ...

9 Real-time shadowing techniques



Tomas Akenine-Moeller, Eric Chan, Wolfgang Heidrich, Jan Kautz, Mark Kilgard, Marc Stamminger

August 2004 **Proceedings of the conference on SIGGRAPH 2004 course notes GRAPH '04**

Publisher: ACM Press

Full text available: [pdf\(11.17 MB\)](#) Additional Information: [full citation](#), [abstract](#)

Shadows heighten realism and provide important visual cues about the spatial relationships between objects. But integration of robust shadow shadowing techniques in real-time rendering is not an easy task. In this course on how shadows are incorporated in real-time rendering, attendees learn basic shadowing techniques and more advanced techniques that exploit new features of graphics hardware. The course begins with shadowing techniques using shadow maps. After an introduction to shadow maps and ...

10 Lighting & sampling: Triple product wavelet integrals for all-frequency relighting



Ren Ng, Ravi Ramamoorthi, Pat Hanrahan

August 2004 **ACM Transactions on Graphics (TOG)**, Volume 23 Issue 3

Publisher: ACM Press

Full text available: [pdf\(365.55 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)
 [mov\(25:51 MIN\)](#)

This paper focuses on efficient rendering based on pre-computed light transport, with realistic materials and shadows under all-frequency direct lighting such as environment maps. The basic difficulty is representation and computation in the 6D space of light direction, view direction, and surface position. While image-based and synthetic methods for real-time rendering have been proposed, they do not scale to high sampling rates with variation of both lighting and viewpoint. Current approaches ...

Keywords: Haar Wavelets, Image-Based Rendering, Non-linear Approximation, Pre-computed Radiance Transfer, Relighting

11 Point-based computer graphics



Marc Alexa, Markus Gross, Mark Pauly, Hanspeter Pfister, Marc Stamminger, Matthias Zwicker

August 2004 **Proceedings of the conference on SIGGRAPH 2004 course notes GRAPH '04**

Publisher: ACM Press

Full text available: [pdf\(8.94 MB\)](#) Additional Information: [full citation](#), [abstract](#)

This course introduces points as a powerful and versatile graphics primitive. Speakers present their latest concepts for the acquisition, representation, modeling, processing, and rendering of point sampled geometry along with applications and research directions. We describe algorithms and discuss current problems and limitations, covering important aspects of point based graphics.

12 Compositing digital images



Thomas Porter, Tom Duff

January 1984 **ACM SIGGRAPH Computer Graphics , Proceedings of the 11th annual conference on Computer graphics and interactive techniques SIGGRAPH '84**, Volume 18 Issue 3

Publisher: ACM Press

Full text available: [pdf\(749.74 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Most computer graphics pictures have been computed all at once, so that the rendering program takes care of all computations relating to the overlap of objects. There are several applications, however, where elements must be rendered separately, relying on compositing techniques for the anti-aliased accumulation of the full image. This paper presents the case for four-channel pictures, demonstrating that a matte component can be computed similarly to the color channels. The paper di ...

13 Prefiltered antialiased lines using half-plane distance functions

 Robert McNamara, Joel McCormack, Norman P. Jouppi
August 2000 **Proceedings of the ACM SIGGRAPH/EUROGRAPHICS workshop on Graphics hardware**

Publisher: ACM Press

Full text available:  [pdf\(2.53 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)


We describe a method to compute high-quality antialiased lines by adding a modest amount of hardware to a fragment generator based upon half-plane edge functions. (A fragment contains the information needed to paint one pixel of a line or a polygon.) We surround an antialiased line with four edge functions to create a long, thin, rectangle. We scale the edge functions so that they compute signed distances from the four edges. At each fragment within the antialiased line, the four distances ...

Keywords: atialiasing, graphics accelerators, prefiltering

14 Color gamut mapping and the printing of digital color images

 Maureen C. Stone, William B. Cowan, John C. Beatty
October 1988 **ACM Transactions on Graphics (TOG)**, Volume 7 Issue 4

Publisher: ACM Press


Full text available:  [pdf\(6.06 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

Principles and techniques useful for calibrated color reproduction are defined. These results are derived from a project to take digital images designed on a variety of different color monitors and accurately reproduce them in a journal using digital offset printing. Most of the images printed were reproduced without access to the image as viewed in its original form; the color specification was derived entirely from calorimetric specification. The techniques described here are not specific ...

15 Draft Proposed: American National Standard—Graphical Kernel System

 Technical Committee X3H3 - Computer Graphics
February 1984 **ACM SIGGRAPH Computer Graphics**, Volume 18 Issue SI

Publisher: ACM Press

Full text available:  [pdf\(16.07 MB\)](#) Additional Information: [full citation](#)

16 Fast detection of communication patterns in distributed executions

Thomas Kunz, Michiel F. H. Seuren
November 1997 **Proceedings of the 1997 conference of the Centre for Advanced Studies on Collaborative research**

Publisher: IBM Press

Full text available:  [pdf\(4.21 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Understanding distributed applications is a tedious and difficult task. Visualizations based on process-time diagrams are often used to obtain a better understanding of the execution of the application. The visualization tool we use is Poet, an event tracer developed at the University of Waterloo. However, these diagrams are often very complex and do not provide the user with the desired overview of the application. In our experience, such tools display repeated occurrences of non-trivial commun ...

17 Texture mapping 3D models of real-world scenes

 Frederick M. Weinhaus, Venkat Devarajan
December 1997 **ACM Computing Surveys (CSUR)**, Volume 29 Issue 4

Publisher: ACM Press

Full text available:  [pdf\(1.98 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#), [review](#)

Texture mapping has become a popular tool in the computer graphics industry in the last few years because it is an easy way to achieve a high degree of realism in computer-generated imagery with very little effort. Over the last decade, texture-mapping techniques have advanced to the point where it is possible to generate real-time perspective simulations of real-world areas by texture mapping every object surface with texture from photographic images of these real-world areas. The technique ...

Keywords: anti-aliasing, height field, homogeneous coordinates, image perspective transformation, image warping, multiresolution data, perspective projection, polygons, ray tracing, real-time scene generation, rectification, registration, texture mapping, visual simulators, voxels

18 Crowd and group animation



Daniel Thalmann, Christophe Hery, Seth Lippman, Hiromi Ono, Stephen Regelous, Douglas Sutton

August 2004 **Proceedings of the conference on SIGGRAPH 2004 course notes GRAPH '04**

Publisher: ACM Press

Full text available: [pdf\(20.19 MB\)](#) Additional Information: [full citation](#), [abstract](#)

A continuous challenge for special effects in movies is the production of realistic virtual crowds, in terms of rendering and behavior. This course will present state-of-the-art techniques and methods. The course will explain in details the different approaches to create virtual crowds: particle systems with flocking techniques using attraction and repulsion forces, copy and pasting techniques, agent-based methods. The architecture of software tools will be presented including the MASSIVE software ...

19 Fragment-based image completion



Iddo Drori, Daniel Cohen-Or, Hezy Yeshurun

July 2003 **ACM Transactions on Graphics (TOG)**, Volume 22 Issue 3

Publisher: ACM Press

Full text available: [pdf\(8.99 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We present a new method for completing missing parts caused by the removal of foreground or background elements from an image. Our goal is to synthesize a complete, visually plausible and coherent image. The visible parts of the image serve as a training set to infer the unknown parts. Our method iteratively approximates the unknown regions and composites adaptive image fragments into the image. Values of an inverse matte are used to compute a confidence map and a level set that direct an incremental ...

Keywords: compositing, digital matting, example-based synthesis, image completion

20 The WarpEngine: an architecture for the post-polygonal age



Voicu Popescu, John Eyles, Anselmo Lastra, Joshua Steinhurst, Nick England, Lars Nyland

July 2000 **Proceedings of the 27th annual conference on Computer graphics and interactive techniques**

Publisher: ACM Press/Addison-Wesley Publishing Co.

Full text available: [pdf\(298.54 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We present the WarpEngine, an architecture designed for real-time image-based rendering of natural scenes from arbitrary viewpoints. The modeling primitives are real-world images with per-pixel depth. Currently they are acquired and stored off-line; in the near future real-time depth-image acquisition will be possible, the WarpEngine is designed to render in immediate mode from such data sources. The depth-image resolution is locally adapted by interpolation to match the resolution ...

Keywords: graphics hardware, image-based rendering

The ACM Portal is published by the Association for Computing Machinery. Copyright © 2006 ACM, Inc.
[Terms of Usage](#) [Privacy Policy](#) [Code of Ethics](#) [Contact Us](#)

Useful downloads:  [Adobe Acrobat](#)  [QuickTime](#)  [Windows Media Player](#)  [Real Player](#)

☐ Search Results

[BROWSE](#)

[SEARCH](#)

[IEEE XPLORE GUIDE](#)

[SUPPORT](#)

Results for "(((sample <and> color <and> area <and> fraction <and> multiply))<in>me..."

Your search matched 0 documents.

A maximum of 100 results are displayed, 25 to a page, sorted by **Relevance** in **Descending** order.

 [e-mail](#)  [printer friendly](#)


» Search Options

[View Session History](#)

[New Search](#)

Modify Search

(((sample <and> color <and> area <and> fraction <and> multiply))<in>metadata)

Search 

☐ Check to search only within this results set

Display Format: ☒ Citation ☐ Citation & Abstract

» Key

IEEE JNL IEEE Journal or Magazine

IEE JNL IEE Journal or Magazine

IEEE CNF IEEE Conference Proceeding

IEE CNF IEE Conference Proceeding

IEEE STD IEEE Standard

No results were found.

Please edit your search criteria and try again. Refer to the Help pages if you need assistance revising your search.

☐ Search Results

[BROWSE](#)

[SEARCH](#)

[IEEE XPLORE GUIDE](#)

[SUPPORT](#)

Results for "(((sample <and> color <and> area <and> fraction <and> overlap)))<in>met..."

Your search matched **1** of **1340257** documents.

A maximum of **100** results are displayed, **25** to a page, sorted by **Relevance** in **Descending** order.


 [e-mail](#)  [printer friendly](#)

» Search Options

[View Session History](#)

[New Search](#)

Modify Search



☐ Check to search only within this results set

Display Format: ☒ Citation ☐ Citation & Abstract

» Key

IEEE JNL IEEE Journal or Magazine

IEE JNL IEE Journal or Magazine

IEEE CNF IEEE Conference Proceeding

IEE CNF IEE Conference Proceeding

IEEE STD IEEE Standard

[Select All](#) [Deselect All](#)

- ☐ 1. **Area fractions by linear analysis of intensity level histograms**
da Costa, J.A.T.B.;
[Computer Graphics and Image Processing, 2003. SIBGRAPI 2003. XVI Brazilian Symposium on 12-15 Oct. 2003 Page\(s\):238 - 244](#)
[AbstractPlus](#) | Full Text: [PDF](#)(359 KB) IEEE CNF
[Rights and Permissions](#)